

$$19488 \div 56$$

		348	QUOTIENT
DIVISOR	56	$\overline{)19488}$	- DIVIDEND
		-168	
		<hr/>	
		268	
		-	
		224	
		<hr/>	
		448	
		-448	
		<hr/>	
		0	≠ REMAINDER

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$$(x^3 - 7x - 6) \div (x + 1)$$

$$\begin{array}{r} x^2 - x - 6 \\ x+1 \overline{) x^3 - 7x - 6} \\ \underline{x^3 + x^2} \phantom{- 6} \\ -x^2 - 7x - 6 \\ \underline{-x^2 - x} \phantom{- 6} \\ -6x - 6 \\ \underline{-6x - 6} \\ 0 \end{array}$$

$$\begin{aligned} x^3 - 7x - 6 - (x^3 + x^2) &= \\ = \cancel{x^3} - 7x - 6 - \cancel{x^3} - x^2 &= \\ -x^2 - 7x - 6 - (-x^2 - x) &= \\ = \cancel{-x^2} - 7x - 6 + \cancel{x^2} + x &= \\ = -6x - 6 & \end{aligned}$$

$$(1 \cdot x^3 - 7x - 6) \div (x+1)$$

$$x+1=0$$

$$-1 \quad -1$$

$$x = -1$$

$$\begin{array}{r} -1 \\ \hline \end{array}$$

$$\frac{x^3}{x} = x^2$$

$x^3$	$x^2$	$x$	$x^0$
1	0	-7	-6
	-1	1	6
1	-1	-6	0

$$x^2 - x - 6$$

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$$(1x^3 + 1x^2 - 9x - 9) \div (x+1)$$

$$x+1=0 \\ x=-1$$

$\underline{-1}$

$x^3$	$x^2$	$x$	$x^0$
1	1	-9	-9
	-1	0	9

$$\frac{x^3}{x} = x^2 \rightarrow \begin{array}{r|rrrr} & x^2 & x & x^0 & \\ \hline & 1 & 0 & -9 & 0 \end{array} \text{ REMAINDER}$$

$$\boxed{x^2 - 9}$$

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$$(x^3 + 5x^2 - 18) \div (x + 3)$$

$$x + 3 = 0$$

$$x = -3$$

-3 )

1      5      0      -18

     -3      -6      18

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1      2      -6      0

$$x^2 + 2x - 6$$

$$7 \div 2 = 3(R1) = 3 \frac{1}{2} \quad \begin{array}{l} \text{--- REMAINDER} \\ \text{--- DIVISOR} \end{array}$$

(81)  $(x^2 - 4x - 12) \div (x - 4)$  DIVISOR

$$\begin{array}{l} x - 4 = 0 \\ x = 4 \end{array}$$

$$\begin{array}{r|rrrr} 4 & & 1 & -4 & -12 \\ & & & 4 & 0 \end{array}$$

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$$\begin{array}{rrr} 1 & 0 & (-12) \text{ REMAINDER} \end{array}$$

$$\frac{x^2 - 12}{x - 4}$$

#89  $(x^4 + 2x^3 - 3x - 6) \div (x-2)$

	$x^4$	$x^3$	$x^2$	$x$	$x^0$	
$2 \overline{)}$	1	2	0	-3	-6	DIVISOR
		2	8	16	26	

	1	4	8	+13	20
	$x^3$	$x^2$	$x$	$x^0$	REMAINDER

$$x^3 + 4x^2 + 8x + 13 + \frac{20}{x-2}$$

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